NAVAL WAR COLLEGE
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"PRE-EMPTIVE DECISION-MAKING" IN A NETWORK-CENTRIC
ENVIRONMENT: PRESERVING THE ROLE OF THE OPERATIONAL ARTIST

By

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A paper submitted to the Faculty of the Naval War College in partial satisfaction
of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily
endorsed by the Naval War College or the Department of the Navy.

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"Pre-emptive decision-making" seeks to counter risk of the national leadership diluting the operational commander's C2 of forces and advantages that concept of "Network-centric Warfare will offer. Technological advances will increase capabilities in C4IR & lethality of forces. Tactical and operational actions have increased potential to directly influence strategy and policy--technology will increase involvement of national leadership in military operations. "Primacy of policy" and pattern recognition are means to identify national-strategic decision points, assist in framing options and preserve CJTF C2 & op-tempo.

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On the eve of the new millennium Jack Smith, a national news correspondent for the American Broadcasting Company commented on the technological advances that had been developed throughout the latter half of the 20th Century. Viewing a display of lap top computers, cell phones, a hand-held global positioning system and other assorted electronic gadgets Mr. Smith articulated that such technological advances connect people with an abundance of information and enable them communicate in a manner heretofore thought infeasible. And, that such advances can simplify peoples lives making them substantially more efficient and, conceivably, could afford additional time for life's more important things like family, friends, and recreation. Mr. Smith concluded with some irony that although additional time for life's important things might have been the intent of such technological advances, the unintended consequence appears to have been just the opposite. His final comment, "We simply need to be careful how we apply technology." (ABC Network coverage of the millennium celebration, Times Square, New York City, New York)

INTRODUCTION

Soon to unmask itself from behind the war fighting advantages that concepts like "Network-centric Warfare"[1] (NCW) herald is a decision-making environment that commanders at the operational level of war must be prepared to confront. Accompanying the shift in the focus of war fighting from platform-centric to network centric operations is the strong possibility of net-centric applications compressing the operational level of war. Such compression will produce significant changes in the chain of command that links the commander of the joint task force (CJTF) to national-strategic decision-makers.

The advances in communications and information management that will support network-centric warfare will also bolster the trend of national leaders involving themselves in military operations. A military crisis in tomorrow's network-centric battle space will likely cause a collision at the operational level between the influence of policy and the role of the joint force commander. Because "no other possibility exists than to subordinate the military point of view

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to the political,"[2] the joint task force commander (CJTF) will required to directly and skillfully communicate with and advise the national leadership on operational-strategic matters. The joint force commander's failure to appreciate this new aspect of net-centric operations will likely result in additional restraints placed on his role as an operational artisan.

Because NCW applications stand the chance of further "blurring the line of demarcation between politico and military affairs,"[3] strategies like pre-emptive decision-making will be useful for commanders at the operational level of war. The CJTF who has the talent to directly support crisis decision-making by the national leadership, and who has "an eye toward controlling events"[4] will likely be the war fighter most prepared to forge ahead into tomorrow's network-centric battle space.

BACKGROUND

One result of compression occurring at the operational level of war will be shorter, much more improved command, control and communications (C3) link connecting the President and his national security advisors with the joint task force commander (CJTF). A communications link of this kind might, with the exception of the major theater conflict, resign commanders in chief of geographical theaters to a role of supervisor rather than "war fighter." The continued requirement of the commander in chief to maintain surveillance on his theater will likely shift the responsibility for crisis operations to a subordinate joint force commander. Furthermore, advances in research and technology, like uncovering the secrets of bandwidth and information processing, although

helpful, will not completely negate the uncertainty inherent in using military force to bring about the aim of policy. The risk to human life and resources coupled with the long-term political consequences will remain significant determinants in why and how military force should be used in the next crisis.

The challenges facing the national leadership in a crisis will be in providing timely, definitive and achievable strategic objectives to the joint force commander without getting too far down in the weeds. Technological advances that further enable command and control of military force, however, will combine with the high political costs in using force to cause senior statesman to view "the weeds" as more accessible and attractive.

The extension of the joint force commander's influence into the strategic-political domain will pose its own unique challenges. His ability to meet those challenges will be balanced on one hand by a proficiency in the operational art and on the other hand by the level of judgement and foresight he incorporates into his role as a conduit between policy and the tactical level of war.

When one looks critically at these developments it becomes clear that a dilemma confronting tomorrows CJTF is unfolding under the guise of a faster and more comprehensive approach to command and control. Might the joint force commander be required to deliver his operational skill and creativity to officials with an advanced degree in policy and only a certificate of appreciation in the operational art? The answer to this question is not far off.

Perhaps the more fitting questions to ask, are "What knowledge and talents are essential to the joint task force commander in promoting congruity

between military operations and the political aim?" And, "How can the joint task force commander preserve largely for himself the responsibility of deploying forces, committing them to combat and sequencing tactical actions toward the strategic objective?"[5] A number of answers to this question will undoubtedly be encountered along the road toward making NCW a reality. Elements of one answer exist in a strategy of "pre-emptive decision-making."

"Pre-emptive decision-making" looks to counter the foreseeable risk of the national leadership inadvertently diluting the joint force commander's operational command and control, and the war fighting advantages that network-centric warfare forecast. Its greatest value might be in its focus toward the operational level of war, a level in which the perspective on war fighting is becoming increasingly overlapped with that of the strategic.

Whether pre-emptive decision-making is defined as a strategy or mindset is of little importance in tomorrow's crises. If exactness is not a requirement, here, than pre-emptive decision-making should be considered as both a strategy and a mindset. The larger point is that the nature of war in tomorrow's network-centric battle space and the nation's demand for responsive joint operations will shed new light on its value, and identify pre-emptive decision-making as a talent like no other talent that a joint force commander must have.

An assumption throughout this effort is that the tools forecast in the concept of "Network-centric Warfare" will become reality. The salient points within the succeeding paragraphs are offered as elements of a decision-making

strategy oriented to the operational level of war and applicable in the environment that NCW concept portends.

The format is threefold. First, to outline "pre-emptive decision-making" and its value to the joint force commander in tomorrow's NCW battle space. Second, to describe potential hazards that the CJTF must be aware of while applying pre-emptive decision-making, along with factors that can influence operations should operational decisions become centralized in the national leadership. Finally, to provide recommendations toward educating service members (future joint force commanders) on the elements which surround and support "pre-emptive decision-making."

Grounded in the "primacy of politics,"[6] pre-emptive decision-making combines a principle that acknowledges the dominant role of policy over the military with technological advances in data collection, processing, and information presentation. Lastly, it draws from the tenets of a "recognitional" decision-making strategy touted by Gary Klein, a published researcher in the field of decision-making, in his 1989 article in Military Review, "*Strategies of Decision Making*" as having great potential in fast moving, high tempo military operations.[7]

MILITARY CULTURE & "PRIMACY OF POLICY:" A GAP IN OUR WIRE

In the U.S. military culture there remains a belief that once the national leadership has chosen to apply military force to a problem they should be obliged and stand aside to allow the profession of arms to fix the problem. Disagreement on this issue within the military affirms the notion that changes come slowly to a

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warrior culture. Change of any kind, however, will come at the pace of pond water if very little, if anything is done to educate individuals in the issue within the U.S. military culture.

One could argue that the U.S. military as a whole has received more education and training in areas such as equal opportunity and "total quality management" than education in the role of military force as an instrument of national policy. In defense of the military culture, schools within the Department of Defense, particularly those schools geared toward educating officers in the middle and latter periods of their careers have made headway in this regard. Because the trend in conflicts that are often referred as a-symmetrical, low intensity or military operations other than war arguably has increased throughout the last decade, added emphasis in this education is needed. This trend reveals the need to educate more service personnel and earlier in their career development, especially the young sergeants and lieutenants whose leadership will have the potential to indirectly influence strategic objectives.

Education of the entire force in this important area is a task that the military culture must energetically take on. The possibility that such a mindset will exist in the mindset of future operational commanders can from the outset corrupt the value of a decision strategy like pre-emptive decision-making.

Grounding pre-emptive decision-making in the "primacy of politics" will represent an indispensable aspect of the joint force commander's ability to articulate operations and their strategic consequences to senior civilian officials. Why? Because a networked battle space; chiefly the technology that will make it

so, will aid the CJTF in identifying operational-strategic decision points before they are reached, and in so doing allow the CJTF to prepare options for the national leadership's assessment and decision.

This last statement might infer that surrendering certain portion of authority over operations is an inevitable. That is exactly what it presumes, and the primacy of policy within a democracy demands it to be so. The challenge to the CJTF is to retain responsibility and in this his operational control of forces. Technology will offer him the tools in which to do so.

It is with the aid of technology and the joint force commander's appreciation of "war [being] a branch of political activity...and that the only source of war is politics – the intercourse of governments and peoples"[8] that he assesses these decision-points and articulates their relevancy to the national leadership. Decision-points are couched in strategic and political consequences by the joint force commander's assessment of operations and their impact on the strategic aim. This important train of thought is not governed strictly by the strategic-political where-with-all of the joint force commander. Advances in technology offer assistance in this effort.

HARNESSING INFORMATION

New technologies offer the possibility of providing structure to a fast moving, chaotic decision-making environment. In addition to those tools profiled in NCW are the tools and products outlined by Maryann Lawlor in her 1998 article in Signal, "*Software Tools Reveal Patterns in Volumes of Vital*

Information." As Lawlor points out, information can be continuously collected, processed and stored "every minute of every day." Once these data are accumulated, their storage and retrieval are facilitated by the creation of data warehouses and data mining technology."[9] Technology advances have allowed facts and figures to be manipulated, organized and the presented in various forms. One of several options made available to the user is to present facts and figures using graphic representation in order to identify trends. Furthermore, graphic enhancements like animation can be applied to show movement and, perhaps even specific activity and patterns as data is monitored and assessed over time.[10]

The information tools and capabilities that Lawlor describes offer tremendous benefits toward supporting the function of command and control at the operational level. A capability that continuously gathers information and frames it with respect to time, space and forces has its advantages even if utilized for routine battle space tasks like maintaining situation boards or planning and coordinating fires throughout the battle. However, there are additional advantages in such technology offered to the CJTF.

By incorporating a skill that promotes intuitive decision-making with advances in information management, the joint force commander is provided a valuable tool in viewing, anticipating and managing the application of military force. A command and control asset of this kind holds great advantages for the CJTF who is faced with a rapidly developing situation, yet requires the additional capability to look ahead for opportunities to decisively influence the battle space.

In one respect, the researcher wishing to pursue such ideas might compare a joint force commander's assessment of his battle space to that of a defensive coach preparing for the next football game. The manner in which the coach forwards and reverses game films, often at variable speeds in order to identify the opposing teams formations and their associated patterns lends itself to understanding the role of software and computer simulation in pre-emptive decision-making.

Conceivably, sensors networked throughout the battle space could collect information on the enemy and display that information in a variety ways. For example, the data on an enemy mechanized divisions can be manipulated or "sliced and diced" with the aid of high speed software and made to reflect an order of battle based upon terrain, size of units, speed, and range of known weapons.

An example of manipulating information to support operational decision-making would be sensors identifying known positions of enemy artillery assets and displaying those artillery positions in real time on digital situation boards. With the aid of software, enemy artillery positions monitored over a period of time could be analyzed in order to identify possible future enemy courses of action. For instance, sensing enemy artillery withdrawing to positions more distant from friendly forces could indicate a planned withdrawal of a larger enemy force under the cover of artillery. Likewise, the same forces moving forward with the added indications of logistic trains might indicate preparations for an attack. In both cases tactical and operational windows of opportunity are identified for the CJTF.

Just as a Prussian soldier once theorized that war has its own grammar, it might be argued today that war has its own patterns. Such patterns, once identified could be animated or "modeled" to reveal, much like the football analogy, events unfolding in the battle space.

For this effort, it is far less important to know in what manner information in the battle space is obtained and made ready for use than to understand in what way this information can be used in pre-emptive decision-making. The advantage of being able to present information quickly and in an organized manner is exploited through the aid of a relatively new and progressive decision-making model, that is recognition-primed (RPD) decision-making.

DECIDING & ACTING TODAY- ON THE FIVE-DAY FORECAST

Because decisions in war are often made under extremely stressful, uncertain and fast moving conditions, commanders attempt to inject some order and structure to the decision-making process. The rigid procedures associated with comparing and analyzing friendly courses of action can provide some order within a chaotic environment, but such procedures are time consuming. This lock-step process is often associated with the analytical models of decision-making. As Gary Klein points out, such [analytical] models "do not work under time pressure because they take too long [and] require much work and flexibility for handling rapidly changing field conditions."[11]

The strategy of "recognition-primed decision-making" is based upon an individual's ability to relate indicators or common elements of one scene or event

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to a similar experience.[12] Attaching a level of meaning to events and associating them with past experiences allows the commander to make preliminary assumptions about the event or actions currently being observed. In other words, the commander is making some low grade guesses. None the less, the indicators or common elements that result in de ja vous by the commander "provide an excellent base from which to judge outcomes, not in a specific, but in a general manner, thus providing a discriminatory framework from which more specific decisions can be made."[13]

Interestingly enough, intuitive decision-making based upon pattern recognition is already being taught in today's military. The U.S. Marine Corps emphasize the execution of brief tactical scenarios in which a player is constrained by time to rapidly assess a tactical situation and decide on a course of action.[14]

Decisions in TDG require rapid thought and assessment in areas like weapons employment, maneuver, content and delivery of "fragmentary" orders and reporting. An indirect benefit and perhaps of even greater value is that the experience garnered in TDG can serve as a frame of reference for situations encountered in the future. This idea also has merit within the operational level of war. Only, instead of studying the relationships between weapons and their effects on enemy forces the focus would be on the application of military force, its impact on enemy operations and the strategic consequences that ensue.

Before pressing ahead it is worthwhile to note that there are hazards involved in applying recognition-primed decision-making to the operational level

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of war. Like the title of this section suggests, there could be too much belief and with that belief, risk, placed in an event or action that is "expected" to occur.

Because this decision-strategy incorporates human intuition and cognition a commander can be unduly influenced by the human desire to relate a successful example to the current situation, vice one that might provoke doubt. Once key indicators and similarities bring about a connection with a previous experience there is a risk in shutting down further queries for information that might confirm or deny initial assumptions even when time allows. The high tempo operations that will characterize the network-centric environment might cause a "pop up analogy" and a current situation to be interpreted as being similar when, in fact, there are significant differences. In short, the CJTF could be wrong. However, a political scientist fittingly offered that history is full of evidence in which "lives and resources were lost and long term damage done to policy'" and its architects because there was a failure to prepare reactions in advance."[15]

Given that the JTFC must deal with these hazards, advances in technology can reduce the chances of assuming away risks or unknowns in operations that lead to being "wrong." For example, sensors and a network of information nodes like those outlined in the concept of network-centric warfare will have the capability to continually update information and fill in unknowns. Graphic representations of the battle space can be replayed in minutes, if not seconds to show an evolving, potentially pattern-rich environment, and thus greatly assist in confirming or denying operational assumptions. As time allows, immature, friendly courses of action can be graphically modeled and played out

over enemy dispositions to help in assessing feasibility and in uncovering details that have been overlooked.

This underscores a weighty point in conducting a "pre-emptive assessment" of, and subsequently pre-emptive decision-making to a situation. Pattern recognition and modeling will permit the joint force commander to communicate warnings and stimulate thought within the national leadership over on-coming strategic decisions. With this, his value to the national leadership rests in his ability to afford them time to address strategic options based upon his perception of one or more specific outcomes, or at least the time range within which they will occur.[16]

A scholastic example can be achieved by applying NCW theory to a crisis scenario much like the final stages of the ground war in Operation Desert Storm. In this scenario, a joint task force headquarters, a carrier battle group, and an expeditionary air force have been rushed ahead to Country X - recently invaded by neighboring Country Y. Knowing the difficulty of the U.S. to rapidly deploy and sustain heavy ground forces into the region, Country Y has decided to act swiftly with tank and mechanized forces to seize a portion of country X.

The joint task force battle cell has assessed the Red Guard; an enemy division made up of mechanized and motorized forces as the operational center of gravity (COG) for the Red forces. Under the pressure of U.S. expeditionary air forces, the hasty withdrawal of the Red Guard toward its own boarder constituted a strategic decision for the National Command Authorities. Why? For one, "time" is critical to a decision that seeks to achieve the operational COG; an objective,

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which if destroyed carries the most potential in achieving the strategic aim. This perspective, however, does not take into account policy's entire aim.

In the networked battle space sensors will have depicted movement of Red forces in real time, and indicated a withdrawal, potentially hours ahead of time, through computer depicted movement of all, or selected enemy forces. As described in the concept of NCW, friendly forces would be self-synchronizing (units re-tasking themselves based upon shared information, and understanding of mission and commander's intent) in response to the changing situation. The tempo of operations up to this point, in large part because of "self synching" has been high and has favored the joint task force, but there are factors to be addressed momentarily that can work against the favorable tempo if not addressed by the CJTF.

Because the battle space is being depicted in real time within his headquarters and to the national leadership, vis-a-vis the White House Situation Room, the CJTF can outline potential decision points that influence the political aim and the tempo of his operations. Theoretically, the joint force commander in this scenario would articulate to the national leadership that the immediate military objective is essentially achieved once the Red Guard withdraws across the border. When this event occurs, some semblance of stability will be regained.

But, he would likely add that stability would be temporal if the enemy chose to re-invade at a later date. Should the enemy be allowed to withdraw, the strategic consequences for the U.S. could be an undesirable, long-term force

commitment toward preserving stability in the region. Should enemy forces be engaged, tactical action could lead to domestic concern and questions over additional U.S. casualties. Furthermore, a perception of wanton destruction of enemy forces could be counter-productive to the "end state," possibly generating friction between the U.S. and supporters of Country Y.

So what is pre-empted? The joint force commander in this case is seeking to "pre-empt" decisions by national leaders that, if not objectively thought through might not coincide with the policy objectives set forth at the outset or during the crisis. Such considerations if not strategically outlined could also result in a directive that cannot be supported militarily because the window of opportunity for such action has passed. Essentially, the joint force commander's understanding of how net-centric applications can influence operations compels him to quickly and objectively frame strategic options. To not do this would negatively impact the fluidity with which U.S. forces are operating and perhaps needlessly jeopardize their security.

An example of this in military operations other than war (MOOTW) might be a scenario similar to Somalia. Although the action in this 'battle space' results from groups of people interacting in and around villages and towns, the advantages in technology and pre-emptive decision-making might still be realized. For example, a combination of sensors and inexpensive position indicators placed on trucks within a convoy, or placed on relief agency vehicles or attached to food containers could paint a picture of the environment. Diversity in ethnic groups or religions in the area might dictate a fair and progressive food

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distribution effort in order to prevent shifts in power or an increase in animosity to occur between rival groups. The CJTF might reduce one of the many threats that can take shape in like environments and possibly trouble shoot a negative trend before problems occur. The strategic point to this? Ask yourself what might happen if the national leadership, under the real possibility of a media-charged U.S. public outcry, said, "they're starving, just get food to those people any way you can!" Mismanagement at the operational and tactical levels could lead to strategic failure.

These considerations may appear obvious, perhaps almost commonsensical to one that is familiar with the impact of operations on strategy and policy. However, the combination of a compressed operational level of war brought on by network-centric applications and the realities of political decision-making might necessitate the joint force commander's influence in the realm of policy. By first outlining the options to the national leadership and then assisting in the "elimination of options by constraints," the CJTF has focused in on a key aspect of political choice; that is the national leadership's ability to justify the chosen option.[17]

Although technological advances will increase the possibility of the national leadership becoming increasingly involved in military operations, it does not place the joint forces that will win tomorrow's arguments in the hands of more qualified operational artisans. As has been described, pre-emptive decision-making offers the CJTF the capability to influence and possibly provide input on

decisions made at the highest level. Understanding a few of the variety of factors that can influence decision-making at that level is worthwhile.

INTRICACIES OF NATIONAL-STRATEGIC DECISION-MAKING

History reveals that decision-making at the national-strategic level is filled with complexity. The weight of international relations and domestic affairs combines with the beliefs, values and attitudes of the decision-makers to make decision-making at this level intricate. When the scope of crisis decision-making centers around the use of military force the impact of those factors on decision-making can directly influence military operations.

To a large extent the President's personal desires dictate how decision-making will be conducted. Depending on his personality and his attitude toward available advisors, the President may choose to assess and make national security decisions in a variety of forums.

President Kennedy, for example, preferred a collegial style of decision-making and solicited the advice of an ad hoc group of civilian advisors known as the "inner circle."[18] President Johnson gathered a select body of intellectuals and statisticians, coined the "Whiz Kids," to assist him with his decisions and to analyze the effectiveness of his foreign policy.[19] Both of these presidents made national security decisions involving military force with the aid of a select group of top level officials and at times with the exclusion of military advisors.

Regardless of the level or type of input by advisors, the potential for mismanaging military crisis is ever present. Secretary McNamara, years after

the crisis characterized the period surrounding President Kennedy's 1961 failed Bay of Pigs invasion and later the administration's handling of the Cuban Missile Crisis as a time of "miscalculation, misinformation and miss-judgement."[20] Historians and political scientists might offer a myriad of reasons for Secretary McNamara's observations. Arguably many Americans would consider the Cuban missile crisis as victory for the U.S. over the Soviets. None-the-less, such characterizations are: 1) indicators of the effectiveness in civil-military relations within the decision-making body, and 2) and a result of how the crisis is perceived by the national leaders and the manner in which crisis information is interpreted.

Once national leaders sense the potential for a military crisis to spin out of control, (i.e. escalate or fail to proceed in the manner expected), there will likely be increased political control of military operations. Evidence might be found in the Kennedy Administration's handling of the blockade around Cuba when national security officials directed the movement of individual U.S. Naval warships to intercept Soviet cargo vessels believed to be carrying equipment for nuclear missiles.[21]

President Johnson's administration was so concerned over escalating the war in Vietnam with China that "civilian authorities provided detailed instruction and control of U.S. military operations." This concern progressed to such a level that President Johnson became intimately involved in the targeting process that had functionally been managed by the Air Force.[22]

Joint Force Commanders in tomorrow's crisis might be obligated to re-focus the national leadership's intent for military operations due to the personality factors of the national leadership. There is the possibility that a president might view the actions of an adversary through a "self-centered prism" and with some irrationality.[23] History accounts for this possibility as well. President Johnson's sentiment that he would not be the first U.S. President to lose a war reflected frustration in the leadership of North Vietnam; frustration caused in large part by the enemy's refusal to be coerced into a settlement with its southern neighbor combining with domestic disapproval of the war.[24] President Nixon, rebuffed by Hanoi much like his predecessor, and pressured by the anti-war movement at home, directed a military operation into Cambodia "to show everyone that he could not be pushed around." The operation, from the outset was defined as vague, imprecise, and left South Vietnam open to attack.[25]

A compressed chain of command might also require the CJTF to communicate directly with officials that know relatively little about military operations. In the event that the advice of military advisors is not solicited, the President risks having the operational and tactical situation becoming distorted because of a lack of credible military expertise in decision-making.

It markedly favors a CJTF to communicate with and provide advice to national leaders who have some understanding of the capability of military force." Through direct communications with the CJTF, the national leadership can be better assisted in steering clear of "operations that are to produce effects foreign to their nature."[26]

National security advisors and country specialists likely possess a broad understanding of the roles of military force and how it can be applied to the current crisis. Following that, the ability of like advisors to provide credible information on capabilities or accurately assess the consequences of certain tactical actions is limited by their knowledge in military operations.

There is also the possibility that high level officials will consider themselves qualified in an area because of their having some past experience or knowledge in the matter. For example, senior intelligence analysts are often promoted into positions [lacking] "the analytical expertise in the fields for which they are responsible [yet] some analysts consider them selves experts or on par with [those] who have spent a lifetime dealing with the same subjects."[27] Therefore, such analysts might unwittingly proceed in delivering deficient information to officials seeking to make highly informed decisions.

There is also the tendency for appointed officials to presume that their position at the top of their organizations and in close proximity to the head of state brings with it a level of military expertise. Such errors in self-perception by officials, even when balance is provided by credible military advice are difficult for officials to self-identify. "The myth that policy makers can rely on professional advice is unsupported; to get relevant advice one has to be able to ask relevant questions, and have intellectual tools to judge and question the quality of advice one gets."[24] And finally, it appears that no matter what forum decision-making is conducted or who provides the advice, many political officials simply refuse to believe that there judgment or assessment in a crisis is off the mark. This

possibility, however, should not represent a deterrence to the joint force commander's objective input on issues that will impact military operations.

CONCLUSIONS

This conclusion suggests that the technological advances that will introduce "Network-centric Warfare" will increase the tendency of national leaders to involve themselves in military operations. Although the primacy of policy judges this inevitability to be within the full authority of our national leaders, the effects of such involvement will likely restrain the potential in network-centric operations.

Operational commanders, in particular commanders of joint forces do not have the option of standing by as military force is committed toward the achievement of a strategic aim. The decision-support mindset which seeks to balance the demands of policy with the responsibility for fighting smarter and therefore more decisively in a net-centric battle space is outlined in "pre-emptive decision-making." This strategy will cause the joint force commander to move toward and interact in a domain which current civil-military thought might say that he should not. The costs of failed operations in tomorrow's highly lethal and politically uncertain battle space will demand that the CJTF do so.

Through schooling in the primacy of politics; in the advantages in intuitive and pattern recognition, and in the factors that influence national strategic decision-making the CJTF will have made the first step toward preserving command and control of forces in the next crisis. To not take this step will resign

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future joint force commanders to the role of a manager of military force; a

manager who will get "them" there, who will monitor tactical actions, and who can

hopefully bring "them" home.

RECOMMENDATIONS

1. Progressive Education on the "Primacy of Policy" from Entry-Level.

When whole communities go to war – whole peoples, and especially civilized peoples-the reason always lies in some political situation, and the occasion is always due to some political object. War, therefore is an act of policy...Policy will permeate all military operations, and in so far as their violent nature will admit, it will have a continuous influence on them...The political object is the goal, war is the means of reaching it, and means can never be considered in isolation from their purpose.[28]

Research conducted in the area of civil-military relations and their ability to

influence national-security decision-making found that the U.S. Military changed

its views on how senior officers were educated. The change was caused a need

to be able to compete with the intellectual and politically sophisticated officials

who dominated the higher reaches of national government. The result was an

increase in advanced degrees in the social sciences, and an increase in joint and

political-military assignments.[29] The salient point is that changes in cultural

norms can occur, especially when the military culture perceives a possible threat

to its credibility or effectiveness. The nature of command and control in

tomorrow's battle space and the potential for tactical actions to negatively

influence policy requires that the military firmly position the "primacy of policy" in

its core curriculum. The abbreviated quote, above would be a good start.

2. Further research and training in recognition-primed decision-making with particular emphasis on pattern recognition from the operational level of war.

Although war should never be conducted like one would play a computer game, technological advances offer advantages in viewing, analyzing and better understanding the battle space. In the chaos that characterizes armed conflict, software, graphic presentation and animation will provide tools with which to possibly decide faster and most assuredly assess and plan at an increased tempo.

3. Continued education in the national-strategic consequences of applying military force—particularly from the operational perspective.

In-depth study in the effects of military force on policy. Specific focus should be on case studies in which policy was not served well due to the application or failure to apply force - resulting in hidden and/or negative political consequences, e.g., Somalia. Although every conflict has its own nature(s), study in this area can support intuitive / recognition-primed decision-making. Accompanying detailed study is the increased possibility that "pre-emptive decision-making" can be better understood and applied.

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NOTES

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